DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/11/2011 has been entered.

Status of Claims

2. In the amendments filed 01/13/2011, the following occurred: Claims 1, 8, and 15 were amended. Claims 17-19 were added. Claims 1, 2, 4-9, 11-15 and 17-19 are currently pending in Instant Application.

Response to Amendments

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims **1, 4-7, 15, 17, and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hagiwara et al (US Pub. No. 2001/0023393 A1)(hereinafter as Hagiwara)** view of **Schott (US Pat. No. 5,619,631)(hereinafter as Schott)**.

Hagiwara discloses: As per **claim 1** (currently amended), an engine transition test instrument (**¶ [0007]**) comprising:

a virtual engine tester for simulating a transition state of a virtual engine in which a rotational speed or torque of the virtual engine changes with time (**¶ [0007] and [0008], lines 1-8, teaches a simulator having packages for automatic vehicle transmission controllers, which can simulate non-linear behavior of hydraulic actuators in real time.**),

wherein the virtual engine tester comprises

a simulator for simulating the behavior of the virtual engine by a transition engine model (**¶ [0008] and ¶ [0034], lines 1-9, teaches a simulator having computer-aided design programs for verifying an algorithm of a shift controller of an automatic transmission wherein the computer-aided design programs include a first model describing behavior of the engine, second model describing behavior of the transmission)** based on data obtained by driving an actual engine while changing a value of at least one controlled factor (**¶ [0049], lines 1-13 and [0050], lines 1-15, teaches various sensors are provided at the engine including a first rotational speed sensor that generates a signal indicative of the rotational speed of the transmission input shaft. "Driving an actual engine" is broadly interpreted as running an engine under various condition such as different gear ratios as disclosed by the prior art; and not limited to the physical action of a driver and vehicle.)**;

a virtual controller that emulates an actual controller that controls the actual engine, and supplies an engine control signal to the simulator(**¶ [0032], lines 1-11 and ¶ [0033], lines 12, teaches the simulator has a group of pseudo-signal generators. The pseudo signals are used to operate the hydraulic actuators such as clutches. Other pseudo signals and the vehicle speed are generated by generators and are input to the simulator main unit. The simulator main unit corresponds to the claimed virtual controller.**); and

a control value operation unit for supplying a control value for the controlled factor to the virtual controller causing simulation results by the simulator to be displayed on a display means (**¶ [0035], lines 1-10, teaches simulator unit performs calculation of outputs of the first to third models and verifies and evaluates the stored shift control algorithm while outputting the results of verification and evaluation through a display**),

wherein the control value operation unit causes the control value used for the simulation to be displayed in a time-series graph on the display means along with the simulation results (**Figs. 19A, 19B, and 19C, and ¶ [0093]**),

the control value operation unit updates the control value displayed in the graph to obtain a new control value (**Fig. 19A and 19C and ¶ [0093] – [0094], teaches calculated (outputted) values of the shift control algorithm are displayed in a graph for verification and evaluation by changing colors of the lines indicative of the calculated and actual values so that they can be discriminated from each other**).

Hagiwara does not expressly disclose updates in response to a point-and-drag operation by an operator, and the point-and-drag operation includes specifying a range to be altered in the time-series graph, and specifying an extent of alteration to be done for the control value within said range to be altered.

Schott, however discloses updates in response to a point-and-drag operation by an operator **(col. 2, lines 9-12, discloses reconfigure the graphical representation according to user manipulation of the graph, and modify the graphical representation as well as the underlying data stored in data arrays based on the user input. Col. 8, lines 46-57, disclose drag operation which includes the step of depressing a mouse button while the mouse-moveable cursor is on the object to be moved)**, and the point-and-drag operation includes specifying a range to be altered in the time-series graph **(col. 27, lines 2-10 and 53-64, discloses dynamic graph can be changed with the mouse using the mouse "drag". Often a user will want to manipulation a data element to the margin of the graph, i.e. to the limit of its range on the graph.)**, and specifying an extent of alteration to be done for the control value within said range to be altered **(col. 27, line 53 to col. 28 line 5, discloses an overshoot tolerance range which is set as "a matter of programmer preference")**.

Hagiwara and Schott are analogous art because they are from similar fields of endeavor of displaying data in graphical form. At the time of the invention it would have been obvious to person of ordinary skill in the art to substitute the reconfigurable graphical representation of data according to user manipulation of the graph as discussed in Schott for the graphical display of data of the engine model and simulator discussed by Hagiwara for the purpose of faster manipulation of interrelationship among the data **(Schott: col. 1, lines 63 to col. 2, line 2)**.

Hagiwara discloses: As per **claim 4** (currently amended), the engine transition test instrument according to claim 1, wherein the control value operation means causes a target value for the simulation by the simulator to be displayed on the display means in parallel with the simulation results (**Fig. 19A and ¶ [0093], lines 1-7, shows the driveshaft torque TDS and the corresponding engine speed Ne on the same graph**).

Hagiwara discloses: A per **claim 5** (currently amended), the engine transition test instrument according to claim 1, wherein with respect to the portion in which the difference between the simulation results and a target value exceeds a permissible limit, the control value operation means causes the simulation results to be displayed in a display pattern different from that for other portions (**Fig. 19A and 19C and ¶ [0094], lines 1-10, teaches the shift control algorithm can be verified and evaluated by changing colors of the lines indicative of the calculated and actual values such that they can be discriminated from each other on the display. Examiner interprets "exceeds a permissible limit" as the portion where actual and simulated values are not the same. These portions would display in two lines, presumably in different colors, as opposed to a single line where the two values match.**).

Hagiwara discloses: As per **claim 6** (currently amended), the engine transition test instrument according to claim 1, wherein with respect to the control value **(i.e. drive shaft torque, TDS)** that corresponds to a portion in which the difference between the simulation results and a target value exceeds a permissible limit, the control value operation means causes the control value to

be displayed in a display pattern different from that for other portions **(Fig. 19A and 19C and ¶ [0094], lines 1-10, teaches the shift control algorithm can be verified and evaluated by changing colors of the lines indicative of the calculated and actual values such that they can be discriminated from each other on the display. Examiner interprets "exceeds a permissible limit" as the portion where actual and simulated values are not the same. These portions would display in two lines, presumably in different colors, as opposed to a single line where the two values match.)**.

Hagiwara discloses: As per **claim 7** (currently amended), the engine transition test instrument according to claim 1, wherein the control value operation means divides simulation time into time slits of a unit period of time, and causes the time slit in which an integrated value of the difference between the simulation results and a target value exceeds a threshold value to be displayed in a display pattern different from that for the other time slits (**¶ [0083], lines 1-8, [0090], lines 1-14, [0094], lines 1-10 and Fig. 5, teaches 200 μsec simulation cycle was used. Specifically, the prior art reports "the non-linear clutch section (and the integral factor) was simulated using the same interval of 200 μsec., the simulation result reveals that the calculated value (marked by "b") diverged from a desired value (marked by "a") in the shift control algorithm". Examiner interprets "exceeds a threshold value" as the portion where actual and simulated values are not the same. These portions would display in two lines, presumably in different colors, as opposed to a single line where the two values match.)**.

Hagiwara discloses: As per **claim 15** (currently amended), a computer readable medium having instructions for causing an information processing system **(see Fig. 1)** to operate:

a simulator for simulating the behavior of a virtual engine by a transition engine model (**¶ [0008], lines 15-20 and ¶ [0034], lines 1-9, teaches first model describing behavior of the engine, second model describing behavior of the transmission)** based on data obtained by driving an actual engine while changing a value of at least one controlled factor (**¶ [0049], lines 1-13 and [0050], lines 1-15, teaches various sensors are provided at the engine including a first rotational speed sensor that generates a signal indicative of the rotational speed of the transmission input shaft. "Driving an actual engine" is broadly interpreted as running an engine under various condition such as different gear ratios as disclosed by the prior art; and not limited to the physical action of a driver and vehicle.**);

a virtual controller that emulates an actual controller that controls the actual engine, and supplies an engine control signal to the simulator (**¶ [0032], lines 1-11 and ¶ [0033], lines 12, teaches the simulator has a group of pseudo-signal generators. The pseudo signals are used to operate the hydraulic actuators such as clutches. Other pseudo signals and the vehicle speed are generated by generators and are input to the simulator main unit**);

a control value operation unit that supplies a control value for a controlled factor to the virtual controller, that causes simulation results by the simulator to be displayed on a display screen (**¶ [0035], lines 1-10, teaches simulator unit performs calculation of outputs of the first to third models and verifies and evaluates the stored shift control algorithm while outputting the results of verification and evaluation through a display**),

wherein the control value used for the simulation is displayed in a time-series graph on the display means along with the simulation results **(Figs. 19A, 19B, and 19C, and ¶ [0093])**,

the control value operation unit updates the control value displayed in the graph to obtain a new control value **(Fig. 19A and 19C and ¶ [0093] – [0094], teaches calculated (outputted) values of the shift control algorithm are displayed in a graph for verification and evaluation by changing colors of the lines indicative of the calculated and actual values so that they can be discriminated from each other)**.

Hagiwara does not expressly disclose an operator performs an update in response to a point-and drag operation, and the point-and-drag operation includes specifying a range to be altered in the time-series graph, and specifying an extent of alteration to be done for the control value within said range to be altered.

Schott, however discloses an operator performs an update in response to a point-and drag operation **(col. 2, lines 9-12, discloses reconfigure the graphical representation according to user manipulation of the graph, and modify the graphical representation as well as the underlying data stored in data arrays based on the user input. Col. 8, lines 46-57, disclose drag operation which includes the step of depressing a mouse button while the mouse-moveable cursor is on the object to be moved)**, and the point-and-drag operation includes specifying a range to be altered in the time-series graph **(col. 27, lines 2-10 and 53-64, discloses dynamic graph can be changed with the mouse using the mouse "drag". Often a user will want to manipulation a data element to the margin of the graph, i.e. to the limit of its range on the graph.)**, and specifying an extent of alteration to be done for the control value within said

range to be altered **(col. 27, line 53 to col. 28 line 5, discloses an overshoot tolerance range which is set as "a matter of programmer preference")**.

Hagiwara and Schott are analogous art because they are from similar fields of endeavor of displaying data in graphical form. At the time of the invention it would have been obvious to person of ordinary skill in the art to substitute the reconfigurable graphical representation of data according to user manipulation of the graph as discussed in Schott for the graphical display of data of the engine model and simulator discussed by Hagiwara for the purpose of faster manipulation of interrelationship among the data **(Schott: col. 1, lines 63 to col. 2, line 2)**.

Schott discloses: As per **claim 17** (New), the engine test instrument according to claim 1, wherein alteration of the control value comprises increasing or decreasing the control value within the range to be altered **(col. 25, lines 22-43, discloses a determination is made whether the user manipulation is causing the focused pie wedge to expand or contract. For example, a determination is made that the focused pie wedge is being increased or decreased in size by the user through manipulation of the focused pie edge. Although the alteration example disclosed by Schott is for a focused pie wedge (i.e. a specific graphical representation of data), Schott recognizes many changes and modifications may be made (See col. 25, lines 49-59)**.

Schott discloses: As per **claim 18** (New), the engine test method according to claim 8, wherein alteration of the control value comprises increasing or decreasing the control value within the range to be altered **(col. 25, lines 22-43, discloses a determination is made whether the user**

manipulation is causing the focused pie wedge to expand or contract. For example, a determination is made that the focused pie wedge is being increased or decreased in size by the user through manipulation of the focused pie edge. Although the alteration example disclosed by Schott is for a focused pie wedge (i.e. a specific graphical representation of data), Schott recognizes many changes and modifications may be made (See col. 25, lines 49-59).

4. Claims **2, 8, 9, 11-14 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hagiwara et al (US Pub. No. 2001/0023393 A1)(hereinafter as Hagiwara)** view of **Schott (US Pat. No. 5,619,631)(hereinafter as Schott)** and further in view of ***"A Matlab*-Based Modeling and Simulation Package for Electric and Hybrid Electric Vehicle Design" by Butler et al (hereinafter as Butler)**.

Hagiwara and Schott disclose: As per **claim 2** (currently amended), the engine transition test instrument according to claim 1 **(as noted above)**.

Hagiwara also discloses a means for conducting a transition test on the actual engine using the new control value **(¶ [0049], lines 1-13 and [0050], lines 1-15, teaches various sensors are provided at the engine including a first rotational speed sensor that generates a signal indicative of the rotational speed of the transmission input shaft.)**.

Hagiwara and Schott do not expressly disclose means for updating a transition engine model in the simulation means based on test results by the means for conducting the transition test.

Butler, however, teaches a means for updating a transition engine model in the simulation means based on test results by the means for conducting the transition test **(page 1771, § II. Drive**

Train Design Methodology, ¶ 1 of section, lines 6-10, and ¶ 3, lines 8-9, teaches user can switch components in and out of a vehicle model and the component models can be created from empirical equations.).

Hagiwara, Schott, and Butler are analogous art because they are from similar fields of endeavor of displaying data in graphical form. At the time of the invention it would have been obvious to person of ordinary skill in the art to substitute the reconfigurable graphical representation of data according to user manipulation of the graph as discussed in Schott for the graphical display of data of the engine model and simulator discussed by Hagiwara and utilize the modeling of different drive cycles as discuss in Butler as the engine model in the simulator discussed by Hagiwara for the purpose of simulation of controllers or control systems to aid engineers in modifying and optimizing characteristics of controls such as transmission controls **(Hagiwara: ¶ [0004], lines 9-13).**

Hagiwara discloses: As per **claim 8** (currently amended), an engine transition test method comprising:

a first step of creating a transition engine model as a virtual engine created **(¶ [0008], lines 15-20 and ¶ [0034], lines 1-9, teaches first model describing behavior of the engine, second model describing behavior of the transmission)** based on data obtained by driving an actual engine while changing a value of at least one controlled factor in a transition state in which an engine rotational speed or torque changes with time **(¶ [0049], lines 1-13 and [0050], lines 1-15, teaches various sensors are provided at the engine including a first rotational speed sensor that generates a signal indicative of the rotational speed of the transmission**

input shaft. "Driving an actual engine" is broadly interpreted as running an engine under various condition such as different gear ratios as disclosed by the prior art; and not limited to the physical action of a driver and vehicle.),

a second step of displaying a control value for the controlled factor for operating the virtual engine **(Fig 19A)**;

a third step of emulating an actual controller that controls an actual engine and supplying an engine control signal to the virtual engine based on the control value **(¶ [0032], lines 1-11 and ¶ [0033], lines 12, teaches the simulator has a group of pseudo-signal generators. The pseudo signals are used to operate the hydraulic actuators such as clutches. Other pseudo signals and the vehicle speed are generated by generators and are input to the simulator main unit)**;

a fourth step of displaying simulation results of operating the virtual engine according to the engine control signal **(Figs. 19A, 19B, and 19C, and ¶ [0093])**; and

the control value is displayed in a time-series graph in the second step**(Figs. 19A, 19B, and 19C, and ¶ [0093]),**

the simulation results are displayed in parallel with the graph display of the control value in the fourth step **(Figs. 19A, 19B, and 19C, and ¶ [0093])**,

updates the control value displayed in the graph to obtain a new control value in the fifth step **(Fig. 19A and 19C and ¶ [0093] – [0094], teaches calculated (outputted) values of the shift control algorithm are displayed in a graph for verification and evaluation by changing colors of the lines indicative of the calculated and actual values so that they can be discriminated from each other)**.

Hagiwara does not expressly disclose an operator performs an update in response to a point-and drag operation, and the point-and-drag operation includes specifying a range to be altered in the time-series graph, and specifying an extent of alteration to be done for the control value within said range to be altered.

Schott, however discloses an operator performs an update in response to a point-and drag operation **(col. 2, lines 9-12, discloses reconfigure the graphical representation according to user manipulation of the graph, and modify the graphical representation as well as the underlying data stored in data arrays based on the user input. Col. 8, lines 46-57, disclose drag operation which includes the step of depressing a mouse button while the mouse-moveable cursor is on the object to be moved)**, and the point-and-drag operation includes specifying a range to be altered in the time-series graph **(col. 27, lines 2-10 and 53-64, discloses dynamic graph can be changed with the mouse using the mouse "drag". Often a user will want to manipulation a data element to the margin of the graph, i.e. to the limit of its range on the graph.)**, and specifying an extent of alteration to be done for the control value within said range to be altered **(col. 27, line 53 to col. 28 line 5, discloses an overshoot tolerance range which is set as "a matter of programmer preference")**.

Hagiwara and Schott are analogous art because they are from similar fields of endeavor of displaying data in graphical form. At the time of the invention it would have been obvious to person of ordinary skill in the art to substitute the reconfigurable graphical representation of data according to user manipulation of the graph as discussed in Schott for the graphical display of data of the engine model and simulator discussed by Hagiwara for the purpose of faster manipulation of interrelationship among the data **(Schott: col. 1, lines 63 to col. 2, line 2)**.

Hagiwara and Schott do not expressly disclose a step of correcting the control value according to the displayed simulation results, until the simulation results satisfy a performance objective. Butler, however, correcting the control value according to the displayed simulation results, until the simulation results satisfy a performance objective **(page 1774, § IV. Simulation Studies, ¶ 1 of section, lines 4-10, teaches engine model and motor model were not fine-tuned to a set of physical components, the simulation results have some inaccuracies. The authors design a baseline vehicle and the simulation results are interpreted in comparison to the baseline vehicle.**); and an operator performs an update according to a point-and drag operation **(page 1771, § II. Drive Train Design Methodology, ¶ 3 of section, lines 10-13, and Fig. 2 and Fig 3, teaches a graphical simulation interface which has drag and drop support to connect components and therefore updates a component.)**

Hagiwara, Schott, and Butler are analogous art because they are from similar fields of endeavor of displaying data in graphical form. At the time of the invention it would have been obvious to person of ordinary skill in the art to substitute the reconfigurable graphical representation of data according to user manipulation of the graph as discussed in Schott for the graphical display of data of the engine model and simulator discussed by Hagiwara and utilize the modeling of different drive cycles as discuss in Butler as the engine model in the simulator discussed by Hagiwara for the purpose of simulation of controllers or control systems to aid engineers in modifying and optimizing characteristics of controls such as transmission controls **(Hagiwara: ¶ [0004], lines 9-13).**

Hagiwara discloses: As per **claim 9** (previously presented), the engine transition test method according to claim 8, further comprising:

a sixth step of providing the control value with which a performance objective has been satisfied by repeating the second through the fifth steps to control the actual engine, and conducting an actual transition test on the actual engine **(¶ [0049], lines 1-13 and [0050], lines 1-15, teaches various sensors are provided at the engine including a first rotational speed sensor that generates a signal indicative of the rotational speed of the transmission input shaft.).**

Hagiwara does not expressly disclose a step of updating the transition engine model based on results of the transition test, wherein the second through the fifth steps are repeated with the updated transition engine model.

Butler, however, teaches updating the transition engine model based on results of the transition test, wherein the second through the fifth steps are repeated with the updated transition engine model (**page 1771, § II. Drive Train Design Methodology, ¶ 1 of section, lines 6-10, and ¶ 3, lines 8-9, teaches user can switch components in and out of a vehicle model and the component models can be created from empirical equations.**).

Hagiwara discloses: As per **claim 11** (previously presented), the engine transition test method according to claim 8, wherein the second step or the fourth step, a target value for the simulation is displayed in parallel with the simulation results in the fourth step **(Fig. 19A and ¶ [0093], lines 1-7, shows the driveshaft torque TDS and the corresponding engine speed Ne on the same graph**).

Hagiwara discloses: A per **claim 12** (previously presented), the engine transition test method according to claim 8, wherein in the fourth step, with respect to a portion in which the difference between the simulation results and a target value exceeds a permissible limit, the simulation results of that portion are displayed in a display pattern different from that for other portions. **(Fig. 19A and 19C and ¶ [0094], lines 1-10, teaches the shift control algorithm can be verified and evaluated by changing colors of the lines indicative of the calculated and actual values such that they can be discriminated from each other on the display. Examiner interprets "exceeds a permissible limit" as the portion where actual and simulated values are not the same. These portions would display in two lines, presumably in different colors, as opposed to a single line where the two values match.)**.

Hagiwara discloses: As per **claim 13** (previously presented), the engine transition test method according to claim 8, wherein in the fourth step, the control value **(i.e. drive shaft torque, TDS)** corresponding to a portion in which the difference between the simulation results and a target value exceeds a permissible limit is displayed in a display pattern different from that for other portions. **(Fig. 19A and 19C and ¶ [0094], lines 1-10, disclose the shift control algorithm can be verified and evaluated by changing colors of the lines indicative of the calculated and actual values such that they can be discriminated from each other on the display. Examiner interprets "exceeds a permissible limit" as the portion where actual and simulated values are not the same. These portions would display in two lines, presumably in different colors, as opposed to a single line where the two values match.)**.

Hagiwara discloses: As per **claim 14** (currently amended), the engine transition test method according to claim 8, wherein in the fourth step, a simulation time is divided into time slits of a unit period of time, and a time slit in which an integrated value of the difference between the simulation results and a target value exceeds a threshold value is displayed in a display pattern different from that for the other time slits **(¶ [0083], lines 1-8, [0090], lines 1-14, [0094], lines 1-10 and Fig. 5, teaches 200 μsec simulation cycle was used. Specifically, the prior art reports "the non-linear clutch section (and the integral factor) was simulated using the same interval of 200 μsec., the simulation result reveals that the calculated value (marked by "b") diverged from a desired value (marked by "a") in the shift control algorithm". Examiner interprets "exceeds a threshold value" as the portion where actual and simulated values are not the same. These portions would display in two lines, presumably in different colors, as opposed to a single line where the two values match.)**.

Schott discloses: As per **claim 19** (New), the computer readable medium according to claim 15, wherein alteration of the control value comprises increasing or decreasing the control value within the range to be altered **(col. 25, lines 22-43, discloses a determination is made whether the user manipulation is causing the focused pie wedge to expand or contract. For example, a determination is made that the focused pie wedge is being increased or decreased in size by the user through manipulation of the focused pie edge. Although the alteration example disclosed by Schott is for a focused pie wedge (i.e. a specific graphical**

representation of data), Schott recognizes many changes and modifications may be made (See col. 25, lines 49-59).

Response to Arguments

5. Applicant's arguments filed 01/13/2011 have been fully considered but they are not persuasive.

5.1 Applicant's amendments to claims are sufficient to overcome 35 U.S.C § 112 rejections. Accordingly, the rejection is withdrawn.

5.2 **Applicant Argues:**

Nothing in either Hagiwara or Butler teaches or suggests Applicant's manner of "point-and-drag operation" control as now required in each of the independent claims.

5.3 **Examiner Response:**

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Havan whose telephone number is (571) 270-7864. The examiner can normally be reached on Monday thru Friday, 9am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained

from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/H. H./

Examiner, Art Unit 2128

/Kamini S Shah/

Supervisory Patent Examiner, Art Unit 2128